

Trend Study 30-53-98

Study site name: Sevy Hollow .

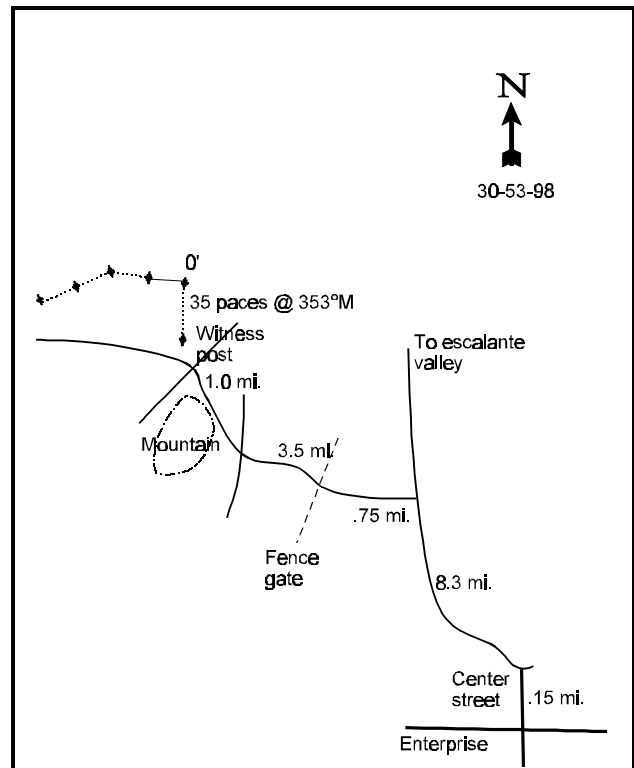
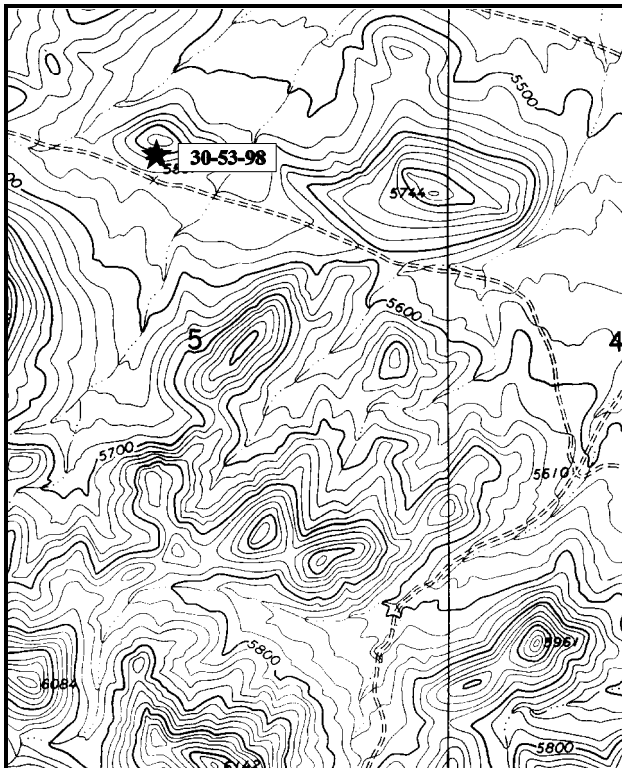
Range type: Sagebrush-Grass

Compass azimuth: frequency baseline 282 M degrees. Lines 3-4 252 M degrees.

Footmark (first frame placement) 5 feet. Frequency belt placement; line 1 (5 & 93ft), line 2 (28ft), line 3 (52ft), line 4 (72ft).

LOCATION DESCRIPTION

From the town of Enterprise, turn north on Center Street for 0.15 miles, turn left (northwest) for 8.3 miles. At this point, there will be a fork in the road. The main road will go to the right to Escalante Valley. Go to the left for 0.75 miles. You will come to a gate. Go through the gate and continue 3.5 miles through thick pinyon-juniper. You will come to an intersection, at which point bear to the right on the road heading straight ahead (northwest) for 1.0 miles to another intersection and a witness post. From the witness post, the 0-foot baseline stake is 35 paces away at a bearing of 353 degrees magnetic. The study is marked by green steel "T" fenceposts approximately 12 to 18 inches in height. The 0-foot stake is marked with browse tag number 7012.



Map Name: Mount Escalante, Utah

Diagrammatic Sketch

Township 36 S , Range 18 W , Section 5

UTM 4175977.624 N, 245134.119 E

DISCUSSION

Trend Study No. 30-53 (61C-2)

The Sevy Hollow trend study is on the southeast exposure of a small knoll just west of Lower Sevy Hollow. Elevation is approximately 5,660 feet with a 20% to 25% slope. The site is a sagebrush-grass range type that appears to becoming negatively effected by increasing numbers of singleleaf pinyon and Utah juniper trees. The site is considered winter range for deer, but use is low. Pellet group data from 1998 estimate only 5 deer days use/acre. Wild horses are using the area and several animals were seen near the site in 1998. Pellet group data estimates 4 horse days use/acre. A few cattle pats were also encountered.

The soil is rocky and appears shallow, but effective rooting depth (see methods) is estimated at almost 22 inches. Soil texture is a sandy loam with a strongly acid pH (5.3). Rocks and pavement are common on the surface, accounting for half of the ground cover. Erosion is not currently a problem due to the high amount of protective ground cover and armored surface of rock cover.

Aside from the pinyon and juniper trees, browse composition is limited to Wyoming big sagebrush, broom snakeweed, narrowleaf low rabbitbrush, and prickly pear. Wyoming big sagebrush currently ('98) provides 64% of the browse cover. Age structure composition indicates that a problem exists. No young or seedling plants were encountered in 1982 or 1998, and an increasing proportion of the population is decadent (35% to 46%). Density has also declined from 5,133 to 4,680 plants/acre since 1982. Utilization was moderate in 1982, but since then it has mostly been classified as light in 1998. Dead plants, first included in 1998, are numerous at 1,340 plants/acre.

Broom snakeweed was numerous in 1982 at 3,933 plants/acre. It has since declined by 92%, density is only 320 plants/acre. The only other fairly common shrub is narrowleaf low rabbitbrush which had a density of 533 plants/acre in 1982, declining to 300 plants/acre by 1998. Pinyon and juniper trees are scattered throughout the site. Point quarter data estimates 83 singleleaf pinyon and 51 Utah juniper trees/acre. Average basal diameter is 3 inches for pinyon and 4.4 inches for juniper. Overhead canopy cover of pinyon on the site averages 7%. This amount of cover would mean that production of the understory could be decreased by as much as 30% to 40%.

The herbaceous understory is poor with cheatgrass providing 57% of the grass cover, and 55% of the total herbaceous cover in 1998. The only common perennial grass is *Galleta*. Perennial forbs are rare with only one species, longleaf phlox, encountered in 1982. During the 1998 reading, 3 annual and 4 perennial forbs were found, but these produce less than 1% cover. The only common species is the annual wooly plantain.

1982 APPARENT TREND ASSESSMENT

Soil trend is declining. Erosion is rapid and no stabilization is apparent. Vegetational trend is also down. The key browse species has generally poor vigor, moderate to high hedging levels, and a disturbing level of decadence in the population. Undesirable increaser shrubs are currently abundant, although they do not appear to be rapidly increasing. Annual grasses are the dominant understory component. Finally, singleleaf pinyon and Utah juniper are both increasing. Relatively few plants were encountered on the density plots but a large number of seedling and young were observed in the general area.

1998 TREND ASSESSMENT

Trend for soil is stable. Percent bare ground has declined slightly, but rock and pavement cover combined has increased from 46% to 50%. There is little bare ground exposed and erosion does not appear to be a serious problem. Trend for browse is down for Wyoming big sagebrush. Density has declined slightly, percent decadence has increased from 35% to 46%, and reproduction is non-existent. In addition, 21% of the

decadent plants are classified as dying. Trend for the herbaceous understory is stable, but poor. Sum of quadrat frequencies of perennial grasses and forbs has remained similar. Cheatgrass, an annual, is the most abundant grass and dominates the herbaceous component. Unfortunately, annuals were not included in past readings so no comparisons can be made.

TREND ASSESSMENT

soil - stable

browse - down

herbaceous understory - stable, but in poor condition

HERBACEOUS TRENDS --

Herd unit 30 , Study no: 53

Type	Species	Nested Frequency '08	Quadrat Frequency		Average Cover % '08
			'82	'98	
G	Bromus tectorum (a)	341	-	100	7.13
G	Hilaria jamesii	163	47	66	4.94
G	Muhlenbergia montana	3	-	1	.03
G	Oryzopsis hymenoides	-	3	-	-
G	Poa secunda	-	-	-	.00
G	Sitanion hystrix	26	27	15	.26
G	Vulpia octoflora (a)	21	-	13	.06
Total for Annual Grasses		362	0	113	7.19
Total for Perennial Grasses		192	77	82	5.23
Total for Grasses		554	77	195	12.43
F	Agoseris glauca	1	-	1	.00
F	Astragalus spp.	2	-	1	.00
F	Draba spp. (a)	13	-	7	.03
F	Eriogonum cernuum (a)	1	-	1	.00
F	Erigeron spp.	1	33	1	.03
F	Phlox longifolia	6	1	3	.01
F	Plantago patagonica (a)	81	-	34	.49
Total for Annual Forbs		95	0	42	0.53
Total for Perennial Forbs		10	34	6	0.05
Total for Forbs		105	34	48	0.58

BROWSE TRENDS --

Herd unit 30 , Study no: 53

T y p e	Species	Strip Frequency '98	Average Cover % '98
B	Artemisia tridentata wyomingensis	92	16.92
B	Chrysothamnus nauseosus	0	-
B	Chrysothamnus viscidiflorus stenophyllus	13	.18
B	Echinocereus spp.	1	.04
B	Gutierrezia sarothrae	11	.06
B	Juniperus osteosperma	1	.06
B	Leptodactylon pungens	0	-
B	Pinus monophylla	8	9.33
Total for Browse		126	26.60

CANOPY COVER --

Herd unit 30 , Study no: 53

Species	Percent Cover '98
Pinus monophylla	7

BASIC COVER --

Herd unit 30 , Study no: 53

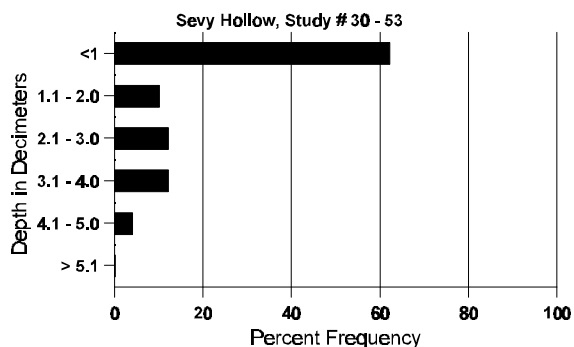
Cover Type	Nested Frequency '98	Average Cover % '82 '98	
Vegetation	348	1.75	39.05
Rock	319	19.50	31.10
Pavement	298	26.00	19.30
Litter	383	38.25	37.24
Cryptogams	144	8.25	1.75
Bare Ground	185	6.25	4.38

SOIL ANALYSIS DATA --

Herd Unit 30, Study # 53, Study Name: Sevy Hollow

Effective rooting depth (inches)	Temp °F (depth)	pH	%sand	%silt	%clay	%OM	PPM P	PPM K	dS/m
21.8	47.7 (17.7)	5.3	72.0	13.4	14.6	2.4	13.9	169.6	.4

Stoniness Index



PELLET GROUP FREQUENCY --

Herd unit 30 , Study no: 53

Type	Quadrat Frequency '98
Rabbit	8
Horse	1
Deer	5
Cattle	1

BROWSE CHARACTERISTICS --

Herd unit 30 , Study no: 53

A Y G R E	Form Class (No. of Plants)	Vigor Class									Plants Per Acre	Average (inches) Ht. Cr.		Total				
		1	2	3	4	5	6	7	8	9		1	2		3	4		
Artemisia tridentata wyomingensis																		
M	82	6	44	-	-	-	-	-	-	-	50	-	-	-	3333	17	22	50
	98	103	18	2	4	-	-	-	-	-	127	-	-	-	2540	17	25	127
D	82	-	27	-	-	-	-	-	-	-	11	2	14	-	1800			27
	98	93	12	-	2	-	-	-	-	-	85	-	-	22	2140			107
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	1340			67
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		92%			00%			18%			- 9%							
'98		13%			.85%			09%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	5133	Dec:	35%			
												'98	4680		46%			
Chrysothamnus nauseosus																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	16	27	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	0					

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Chrysothamnus viscidiflorus stenophyllus																		
M	82	7	1	-	-	-	-	-	-	-	8	-	-	-	533	11	13	8
	98	8	-	-	1	-	-	-	-	-	9	-	-	-	180	7	12	9
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	7	-	-	-	-	-	-	-	-	1	-	-	6	140			7
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	20			1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		13%			00%			00%			-40%							
'98		00%			00%			38%										
Total Plants/Acre (excluding Dead & Seedlings)														'82	533	Dec:	0%	
														'98	320		44%	
Echinocereus spp.																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	4	5	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%										
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'82	0	Dec:	-	
														'98	20		-	
Gutierrezia sarothrae																		
Y	82	2	-	-	-	-	-	-	-	-	2	-	-	-	133			2
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
M	82	57	-	-	-	-	-	-	-	-	57	-	-	-	3800	8	8	57
	98	14	-	-	-	-	-	-	-	-	14	-	-	-	280	5	7	14
D	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	2	-	-	-	-	-	-	-	-	1	-	-	1	40			2
X	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	80			4
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%			-92%							
'98		00%			00%			06%										
Total Plants/Acre (excluding Dead & Seedlings)														'82	3933	Dec:	0%	
														'98	320		13%	
Juniperus osteosperma																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0			0
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20			1
M	82	1	-	-	-	-	-	-	-	-	1	-	-	-	66	69	28	1
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
'82		00%			00%			00%			-70%							
'98		00%			00%			00%										
Total Plants/Acre (excluding Dead & Seedlings)														'82	66	Dec:	-	
														'98	20		-	

A G E	Y R	Form Class (No. of Plants)									Vigor Class				Plants Per Acre	Average (inches) Ht. Cr.		Total
		1	2	3	4	5	6	7	8	9	1	2	3	4				
Leptodactylon pungens																		
M	82	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	-	0
	98	-	-	-	-	-	-	-	-	-	-	-	-	-	0	8	11	0
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'82			00%			00%			00%							
		'98			00%			00%			00%							
Total Plants/Acre (excluding Dead & Seedlings)												'82	0	Dec:	-			
												'98	0		-			
Pinus monophylla																		
Y	82	-	-	-	-	-	-	-	-	-	-	-	-	0			0	
	98	6	-	-	1	-	-	-	-	-	6	-	-	1	140			7
M	82	1	-	-	-	-	-	-	-	-	1	-	-	-	66	51	45	1
	98	1	-	-	-	-	-	-	-	-	1	-	-	-	20	-	-	1
% Plants Showing		<u>Moderate Use</u>			<u>Heavy Use</u>			<u>Poor Vigor</u>			<u>%Change</u>							
		'82			00%			00%			00%							
		'98			00%			00%			13%							
Total Plants/Acre (excluding Dead & Seedlings)												'82	66	Dec:	-			
												'98	160		-			